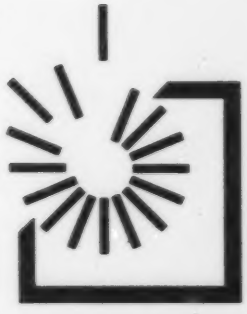
Sectoral Task Force Report

MANUFACTURING

Ontario Round Table on Environment and Economy

Table ronde de l'Ontario sur l'environnement et l'économie



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Ontario Round Table on Environment and Economy

Table ronde de l'Ontario sur l'environnement et l'économie

October 31, 1991

The Honourable Ruth Grier
Chair
Ontario Round Table on
Environment and Economy
790 Bay Street, Suite 1003
Toronto, Ontario
M7A 1Y7

Dear Minister:

The Manufacturing Task Force which the Round Table established earlier this year, is pleased to submit its Manufacturing report.

Over the past six months, the Task Force has consulted as widely as possible with industry, associations, companies, environmental and other interest groups. The input we have received has been most valuable in focusing on the key issues for achieving greater sustainability in the sector.

The members of the Task Force appreciate having the opportunity to make a contribution to the important work of the Ontario Round Table and the Economy.

Respectfully submitted,

B. Heidenreich, Chair

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PREFACE

This report is one in a series prepared for the Ontario Round Table on Environment and Economy. The Round Table was established in 1988 by the Government of Ontario to create a sustainable development strategy for the province. The Honourable Ruth Grier, Minister of the Environment, is its Chair.

To assist in the creation of a sustainable development strategy, the Round Table established six task forces responsible for the Agriculture and Food, Energy and Minerals, Forestry, Manufacturing, Transportation, and Urban Development and Commerce sectors. It also set up a Native People's Circle to provide the Aboriginal perspective on sustainable development.

The sectoral task forces were charged with reporting to the Round Table on how best to begin to achieve sustainability in each sector within the context of the six principles set out by the Round Table in its **Challenge Paper**. These are:

- anticipation and prevention of environmental problems;
- the use of full cost accounting;
- informed decision-making which reflects environmental impacts and long term goals;
- living of the interest and reserving our "natural capital";
- quality over quantity; and
- respect for nature and the rights of future generations.

The Round Table also asked the task forces to consult with stakeholders in developing their overall strategy for sustainable development. Through a combination of research and formal and informal meetings with stakeholders, the task forces and the Native Circle have documented the state of each sector and the options and obstacles to sustainability, as well as their recommendations for action.

The sectoral task force reports will be fowarded to the Ontario Round Table on Environment and Economy. The final recommendations will be considered by the Round Table as it prepares a Provincial strategy for sustainable development.

FOREWORD

Mandate

The mandate of the Task Force was to consult with key stakeholders and to prepare a report to the Round Table which, in the opinion of Task Force members, outlines the strategic issues and priority actions to move sustainable development objectives forward in the manufacturing sector.

Process Followed

The process followed in carrying out its mandate involved:

- preparing and circulating a questionnaire to manufacturing stakeholders
- holding several internal work shops to define key issues and identify existing barriers and potential solutions
- meeting with key business associations to solicit views and further input
- preparing and circulating a discussion paper that outlined key issues and potential solutions under consideration by the Task Force
- holding a multi-stakeholder work shop to solicit stakeholder views on the discussion paper
- participating in other stakeholder sessions including: a green breakfast in Toronto; a stakeholder forum in Peterborough; a town hall meeting in Guelph; and a local Round Table workshop in Muskoka
- compiling and reviewing stakeholder feedback in drafting the Task Force's key recommendations

Key Themes

Throughout the consultation processes undertaken by the Task Force, two themes were consistently raised by a variety of stakeholders within the manufacturing sector. The two themes were (1) uncertainty and (2) the need for pragmatic leadership.

The uncertainty theme covered (1) the scope of the mandate suggested by sustainable development, (2) the roles to be played by the business sector, (3) how government(s) would react to the public pressure to achieve environmental improvements, and (4) the timing of implementation for the changes that are ultimately agreed upon.

The issue of leadership is dealt with in the overview section of the report.

The Task Force feels the uncertainty issue was so prevalent because of the scope or open-endedness of sustainable development. The term's definition, as offered by Brundtland - "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" - allows for a wide range of interpretation, from sustaining the industries within which stakeholders operate or sustaining a particular life style,

to sustaining the conditions which support human life. This ambiguity, coupled with strong and continuing public concern over the state of our environment, creates a large potential role for government.

To this point, governments have been unable to articulate their priorities or vision regarding environmental protection and sustainable development objectives. Without this direction, the business community can not feel secure that capital expenditures to improve plant performance will suffice over a period which such investments normally require. The potential for changing regulatory requirements is large.

The rules of the game need to be specified and the processes by which the rules can be changed need to be much more clearly articulated in order to reduce the paralysis which currently exists.

Compounding the ambiguity issue was the broad spectrum of awareness and understanding that exists among stakeholders of the ecological context within which humanity now finds itself. An equal range of understanding was evident regarding the current economic context as well. Bridging these gulfs was not attempted in the processes undertaken, but the Task Force believes that these gulfs will not be easily bridged. The need for continuing education and awareness building at all levels within society is clearly required.

As part of this educational process, the Task Force believes that many stakeholders would benefit from broader exposure to the national and international contexts as they relate to sustainable development. Within these contexts, there needs to be a clear recognition that sustainability is a relative, not an absolute, term. Sustainable development needs to be defined as a managed process of change where alternatives to achieve specific objectives with relatively better environmental performance are systematically encouraged and achieved.

In this sense, developing sustainably may be a more appropriate term as it refers to an ongoing process of change rather than the achievement of a specific set of objectives.

Having said this, however, it is clear from the feedback which the Task Force received on its questionnaire that many companies from all segments of the manufacturing sector are demonstrating leadership in taking action consistent with sustainable development principles. While the full dimensions of sustainable development may not be fully understood, many of the directions which it implies are understood.

Overview to Recommendations

The Task Force identified two key objectives as essential elements of sustainable development. These twin goals are protecting the biosphere and enhancing competitiveness. The means, or levers, by which these mutually supportive goals can be achieved include:

. improving the processes by which we make decisions;
. improving the information upon which our decisions are based;
. improving our development and use of appropriate technology;
. improving pricing and accounting systems to better reflect environmental and social costs associated with resource use

All stakeholders consulted were in agreement that both goals need to be pursued with a sense of urgency, and that the four levers identified are the keys by which environment and economy integration should proceed. In a market based economy, all four levers must work in concert to achieve agreed upon changes in well managed and coordinated ways.

As part of its exercise, the Task Force defined in both economic and environmental terms the key characteristics of viability that it envisioned a sustainable manufacturer would demonstrate within a 20 year time frame.

Economic sustainability would require:

- achieving competitiveness on a global basis and remaining financially viable
- efficient use of all resources
- innovative products, processes, and management practices
- continual improvement
- strong positioning in high value added market segments
- production of high quality, durable and environmentally sound products (total quality management)
- high levels of investment in research and development and state of the art machinery and equipment
- clean process and product technology development and use
- strong community based focus
- strong and positive relationships among employees, management, communities and governments
- alignment among design, procurement, production and marketing
- management systems which recognize and encourage excellence
- management assuming full responsibility for success or failure

Environmental sustainability would require:

- the manufacture and use of products and processes that, over their life cycle, have minimum impact on the environment - including maximum use of recycled materials and

- minimum use of energy (see Appendix F for an example of energy efficiency)
- "zero" discharge of persistent toxic contaminants to air, land and water
- minimal generation of wastes - gaseous, liquid and solid
- use of renewable resources at a sustainable rate
- use of corporate planning and decision making processes which embody the environmental assessment philosophy of cradle to grave responsibility
- provision of information to consumers to assist in environmentally responsible consumption decisions

Within these contexts, the Task Force recognizes that the manufacturing community will not by itself assure society of developing in a sustainable manner. But it does recognize the importance of the manufacturing sector as a significant consumer of natural resources, goods and services; as a developer and user of technology; as a generator and user of environmental information; and as an important voice in the decision making process.

Given that the manufacturing sector often lies between natural resource developers and end consumers of these resources, manufacturers have the key role to play in effecting the transition to more sustainable forms of economic activity. The manufacturing sector must be viewed as a key steward of financial, human and natural resources.

General Requirements - The Issue of Leadership

In the view of the Task Force, the theme or issue of leadership deserves special attention. In reviewing the growing number of environmental and economic success stories, the Task Force wishes to emphasize that **the majority of these successes were often initiated by one individual**. As important agents of change, these "leaders" have personally demonstrated an ability to turn a potential conflict into opportunity and to take action in the pursuit of these opportunities within the organizations for which they work, their communities, their family, or in their individual behaviours.

This process of leadership, of innovation, of entrepreneurship, often set by example, is hard to quantify, but is recognized by the Task Force as essential if we expect to effect the degrees of change that are necessary in the transition to a sustainable society. Leadership by example is clearly required to capitalize on the opportunities inherent in any process of change.

The environment which fosters leadership by example can and must be created. Through the design of appropriate management and reward systems in both the public and private sectors, individuals at all levels within society can be encouraged to take calculated risks, to experiment, and to learn by doing. Calculated risk taking and experimentation will result where personal initiative is recognized and rewarded. As the need for change relates to developing sustainably, creating this risk taking environment is the most important ingredient that needs to be put in place in both public and private sectors.

For this leadership to be most effective, several conditions are necessary:

First, change needs to be undertaken within the context of several broadly recognized priorities. The actions of many, where aligned, are considerably more effective in achieving stated objectives.

Second, the process of change needs to be managed in a positive manner, through the striking of genuine partnerships, through clear and continuous communication, and where those adversely affected are supported in the transitional phases of the change.

As part of this change process to a sustainable society, we as individuals and as members of organizations and communities, need to recognize and adopt values more in line with ecosystem sustainability. In this light, our measures of success and failure can not solely be judged in monetary terms. And the time frames over which we assess success or failure will need to lengthen to allow for ecosystem feedback. In this endeavour, we need to recognize the importance and work to enhance the value of the global, regional and local commons.

TASK FORCE CONCLUSIONS AND RECOMMENDATIONS

Task Force conclusions and recommendations on the issues of leadership, decision making, information, resource pricing and technology follow.

1. LEADERSHIP

Task Force Recommendations:

1. Senior Managers in both public and private sectors should review their existing evaluation, reward and information systems to determine their adequacy in providing the necessary incentives and feedback which will encourage environmental and economic excellence, risk taking, entrepreneurship and leadership on the part of individuals at all levels.

2. Both public and private sectors should establish pooled information bases which provide case studies of successes and failures relating to sustainable development activities. These information bases should identify what has or has not worked, what efforts have been undertaken, who has and who has not been involved, and what lessons have be learned. Reports on such efforts should be published annually by each level of government and by major business associations operating in Ontario.

   Activities to be reported could include:

   . new partnerships;
   . new decision making processes;
   . new organizational practices;
   . areas of improvement in the regulatory and policy system
   . new monitoring and evaluation techniques;
   . 4R programs;
   . energy efficiency programs;
   . research and development of sustainable technologies;
   . effective environmental audit techniques;
   . problem resolution techniques;
   . public involvement programs;
   . public education programs;
   . etc.

2. DECISION MAKING

Task Force Conclusions

The Task Force believes that the processes by which we make decisions on matters of public and private policy are a key means by which we can enhance our environmental and economic security.

Moving to more sustainable forms of development will require that environmental considerations be brought into the centre of our decision making processes. The relative merits of arguments on each side of an issue need to be considered in determining common ground. In addition, a longer term perspective is required for making decisions on capital expenditures and public policy programs that lead to environmentally and economically sound activity.

The processes by which decisions are made need to be opened to all stakeholders to improve the quality of decisions made and to the raise the degree of acceptance by those affected by the decision. Decisions need to be timely and should be relatively consistent from one situation to the next.

We also need to recognize and accept that perfect solutions will never be developed and that we can not afford, in financial and human resource terms, to solve all of our environmental problems at once. Activities which result in relative improvements need to be considered and priorities need to be set.

The Task Force recognizes that the common ground between environment and economy is most apparent at the front end of the decision making process. This is where public policy and economic development programs are devised and where product and process design parameters are set. At this stage of the decision making process, environmental protection and resource use efficiencies can be built into the program in many cases with little or no net additional cost. Once environmental problems arise, the focus generally shifts to the back end of the decision making process, where the means of correcting environmental damage are largely add on expenses and commonly present affordability problems in cases of marginally competitive operations.

The Task Force recognizes that the time and resource commitments of multi-stakeholder processes are heavy and uncertain, but believes that more informed decisions and faster implementation result once decisions are made. These benefits are felt to outweigh the front end investments required of stakeholders in effective planning. Such processes, in being more anticipatory, also reduce the need for future environmental clean-up and court settlements.

The adoption of multi-stakeholder consultation processes leading to informed decisions is seen to be a positive step by all stakeholders in this regard.

Stakeholders in matters of public policy include industry and industry associations, large and small businesses, non-governmental organizations including environmental groups, native communities, labour, and other public interest groups as well as members of the affected public.

Stakeholders for a manufacturer include suppliers, customers, employees, shareholders, regulators and local public organizations.

Recommendations for Government(s) - Decision Making

Structural Recommendations:

3. The Government of Ontario should organize its various Committees of Cabinet to provide an effective forum in which to consider public policies and programs dealing with environment and economy and as a means of better integrating policies and programs across ministry lines. Further, the Government should encourage economic development Ministries to consider the full range of short and long term environmental impacts of their policy and program proposals in advance of bringing these forward to Cabinet for approval.

   In addition, Cabinet Committee procedures need to become much more transparent than they are at present. Major policy proposals or directions should be communicated to the public in order to achieve more effective consultation in advance of final decisions being made by Cabinet. Decision making processes should allow for a full review and analysis of feasible options to achieve public policy objectives. Those who will be affected by decisions should have an opportunity to comment on the policy options prior to decisions being taken.

   The Task Force wishes to stress that there is often a feeling that consultation exercises are undertaken even though decisions have already been taken on the issues being discussed through such forums. This perception reduces the long term effectiveness of multi-stakeholder consultation as a means of securing effective input into the decision making process.

4. The Government of Ontario should undertake a review of current decision making processes on matters that relate to environment and economy:

   . to clarify process requirements
   . to clearly outline the time frames expected for decisions
   . to outline how the public can access decision forums, and
   . to outline the responsibilities of those with standing.

   Once decisions on matters of public policy have been reached, the decisions need to be made public along with the rationale for the decision and an assessment of

environmental, economic and social impacts of all options that were considered.

As part of this review, the Government of Ontario should assess the consistency and congruency of the policy and program mix of those ministries that are involved in economic development and/or environmental protection. A further part of this review should assess the cumulative impact of all government regulations on industry.

5. The Government of Ontario should also undertake a review of the current Certificate of Approvals process and consider a broad range of alternative processes to ensure that environmental standards are met. Pilot projects of potential alternative processes should be undertaken to assess their effectiveness. A model of third party attestation, as employed in the financial auditing area, should receive consideration.

   The objective of this review would be to identify means by which those professions which must be publicly licensed to assume (a greater share of) environmental protection responsibility and liability do so. Where an alternative proves practicable, its use could absolve government from responsibility for reviewing, on a case by case basis, industrial and municipal proposals for process approvals and technical modifications. Government's role should shift from **doing** case by case reviews to **auditing** reviews and approvals to ensure compliance with standards.

6. The Government of Ontario should implement the proposed changes to the Environmental Assessment Process, as identified in the Environmental Assessment Program Improvement Project. The Government of Ontario should also establish environmental assessment processes to allow for (1) more effective and efficient reviews of routine proposals and (2) a separate stream of Environmental Assessments which would look at major issues such as the Demand Supply Plan for Ontario Hydro, currently before the Board, and the cumulative and long term effects of routine activities on the environment.

   Further, the Government of Ontario should subject public policy and programs with potentially significant implications for the environment to an environmental assessment prior to their consideration by Cabinet. Currently, only provincial and municipal capital projects over a threshold limit are subject to rigorous environmental assessments.

Operational Recommendations:

7. The Government of Ontario should clearly articulate its short and longer term objectives for sustainable development and environmental protection to all industry and non-industry stakeholders.

8. Recognizing that multi-stakeholder processes are designed to resolve issues between competing interests, the Government of Ontario should shift its emphasis from mediator to facilitator of such decisions, to advance the use of multi-stakeholder processes throughout the province.

9. The Government of Ontario should utilize multi-stakeholder processes to assist in the setting of priorities relating to environmental protection and sustainable development. Discussions relating to priorities need to be separate from those that focus on how the priorities should be achieved once set.

   While multi-stakeholder processes can assist in the making of effective and timely decisions, their promotion and use are not intended to absolve Government from its roles as decision maker and regulator of economic and human activity.

10. Having clearly identified its priorities, the Government of Ontario should make more effective use of challenging industry and others to encourage voluntary private sector initiative and innovation in the attainment of publicly set objectives.

    While the challenge process could prove effective in many areas of public policy, it should not be used to achieve persistent toxic contaminant emission reductions.

    Where objectives are not adequately met through the challenge mechanism, the Government should bring in regulations which clearly outline what performance objectives are to be achieved and within what time frame. Regulations should not specify how performance objectives are to be achieved. Where voluntary action is undertaken by industry, some degree of assurance should be given by Government that the rules will not change in mid-stream.

11. The Government of Ontario should clearly identify the rules under which public funding will be provided for private purposes. Where public funds are used, the Government should ensure that stringent environmental conditions are met as part of the development initiative or activity.

12. To provide guidance to Ontario manufacturers and to provide a basis for discussion on best practice consultation mechanisms, the Government of Ontario, in cooperation with manufacturers and environmentalists, should establish generic guidelines on where and how multi-stakeholder consultation processes should be used. Guidelines should be available within two years.

Recommendations for the Ontario Manufacturers - Decision Making

As means of moving towards a preventative stance in protecting our environment:

13. Ontario Manufacturers should become involved in and make use of multi-stakeholder processes in the setting of their positions where public input is required or expected to be a factor in approval of decisions.

14. Ontario Manufacturers should utilize the best practice guidelines established above for the resolution of problems concerning the public interest.

15. When generic standards have been approved, Ontario Manufacturers should consult with environmental and other public interest groups in advance of bringing positions forwards to government for changes in policy, regulations and standards.

16. For all major decisions, Ontario Manufacturers should undertake an environmental impact assessment in advance of committing funding to projects or undertakings and be prepared to involve the public in the review of options under consideration.

17. Ontario Manufacturers should consider the appointment of environmentalists and others as appropriate to Boards of Directors or Multi-stakeholder Advisory Boards. Ontario Manufacturers should work with environmentalists and others as appropriate in the setting of corporate strategies to broaden the range of options considered in advance of making decisions and to improve the quality of decisions reached on matters which affect the environment.

18. All Industry Associations in Ontario should broaden their current mandates to assist their constituents in meeting environmental protection and sustainable development objectives.

    The financial and human resource limitations of the small business sector (fewer than 100 employees) pose a unique challenge in this regard. One means by which the small business sector can be assisted would be through the development of generic Codes of Practice or Environmental Auditing Protocols which could be communicated and demonstrated to small businesses in Ontario.

3. INFORMATION

Task Force Conclusions

There is general agreement that the information we have about our environment and economy is deficient in terms of facilitating sustainable use decisions by producers, consumers and managers of both public and private resources. Information relating to environmental integrity, the buffering capacities of specific ecosystems, the effects of trace contaminants on human health, the stock and flows of natural resources through our economy, and the linkages between our environment and economy are all required in order to assess the sustainability of our activities and of our society. Better information related to competitiveness and the key factors which determine competitiveness is also required.

At present, information relating to our environment and economy is gathered by separate organizations. There is little sharing of information between such agencies and the purposes for which these data are used are largely segregated along economic or environmental lines.

For multi-stakeholder processes to be successful, all stakeholders involved in these processes require access to current information, regardless of its source. At present, access to collected information remains limited.

Greater cooperation and sharing of information would assist stakeholders in reaching acceptable compromise. At present, however, there exist many down sides for those who bring information to the table, such as what would normally be included in a plant or company environmental audit. Information generated by industry relating to compliance with given statutes can be and is often used by governments to press charges for infraction of environmental regulations. Information sharing would assist government in setting effective standards and in assessing the effectiveness of its abatement program activities.

Resources currently invested by both public and private sectors in monitoring, collecting, processing and evaluating environmental and economic performance are extensive. The types of information now collected, while useful to those agencies which collect the data, do not readily lend themselves to an assessment of sustainability from either environmental or economic perspectives. As a consequence, we are unable to agree upon a set of public priorities in the sustainable development field.

Recommendations for Government - Information

Structural Recommendations:

19. The Government of Ontario should review the current "compliance system" framework regarding environmental protection with a view to encourage information collection efficiencies and data sharing between the public and private sectors. The current approach has several drawbacks in that the collection and disclosure of information relating to environmental performance is discouraged where not required by law. Some manufacturers perceive the potential risks in sharing this information with government and others as unacceptably large. This is in part due to the prospect of being charged even though commitments to mitigative action have been made. The current compliance system should be assessed against other models of protecting and enhancing the quality of our environment. As one example, a Ministry of the Environment policy of not using the results of Environmental Audits in prosecutions may encourage manufacturers to undertake such audits to assess their current performance.

20. The Government of Ontario, in cooperation with Federal and Local Governments to avoid duplication and ensure compatibility, should develop a State of Environment Reporting System for Ontario by 1995. This reporting system should be related to public objectives regarding environmental protection and sustainable development activities. State of the Environment reports should be published by the Government of Ontario every two years commencing in 1995. These reports should be made broadly available to the public.

Operational Recommendations:

21. As a means of providing a baseline of information, the Government of Ontario should undertake a full review of all current provincial public policy, programs and legislation which affect manufacturing from an environmental assessment perspective. This review should cover tax policy, annual budgets, incentive programs as well as regulations and standards for environmental protection.

22. The Government of Ontario should require all economic development ministries to report bi-annually on the state of the economic sector for which they have jurisdiction, including its competitiveness, use of resources, technological capabilities, employment and training levels and other relevant economic data. In addition, these reports should provide assessments of the environmental impacts resulting from sector activities and the state of natural resource base upon which the sector relies. Further, these reports should outline the public policies and programs currently in place and provide an assessment of their effectiveness against sustainable development criteria.

23. Recognizing that (1) long term educational efforts are required to achieve sustainable rates of resource use and that (2) current pricing systems do not adequately capture the environmental costs associated with resource use:

    The Government of Ontario, preferably in cooperation with the federal and other provincial governments and major industry associations, should introduce a program which requires comparative information be made available to consumers on the environmental impacts associated with products manufactured or sold in Ontario. This program should be fully detailed by 1994 and should be operational by 1996. As an initial step, the Government of Ontario should require manufacturers, on a sector by sector basis, to produce emission inventories of toxic contaminants to air, land and water by 1992. Sectoral toxic emission reduction and pollution prevention plans should be produced by 1994. Information on toxic emissions and reduction plans should also be made publicly available by 1994.

    Over the longer term, information regarding the life cycle impacts of all goods and services available within the economy should be made available to consumers, regardless of the technical and accounting difficulties involved. When full cost accounting and pricing becomes fully utilized, the life cycle price for goods and services will probably suffice as a proxy for environmental impact information.

24. Under the Ontario Securities Act, the Government of Ontario should require all public companies to report annually, commencing in 1993, on their compliance with environmental statutes, regulations, standards and guidelines for emissions to air, land and water; their use of energy and virgin resources per unit of production; and their generation and management of hazardous waste. (See Appendix E for an example of such an information source).

25. A voluntary, national rating system should be established for publicly traded companies, making information available to investors and consumers on the environmental performance of these companies. The rating system would require explicit criteria and rely on publicly available information for the rating of environmental performance.

Recommendations for the Ontario Manufacturers - Information

26. As part of a baseline assessment of current performance with respect to environmental parameters, Ontario Manufacturers should undertake a full review of their products, processes, procurement practices and management systems to identify their life cycle impacts on the environment.

    Benefits from such a baseline assessment would include reduced environmental impact, improved knowledge and understanding of impact processes/mechanisms, raise the profile of environmental protection within the organization, reduce operating costs and liability exposure, improve efficiency and identify new product/market opportunities.

27. Ontario manufacturing associations should develop, through multi-stakeholder processes, environmental Codes of Practice for their members and should deny membership in the association for any company that is not prepared, through the signature of its Chief Executive Officer, to indicate compliance with the Code. Members who breach the Code, should be expelled from the association.

28. All Ontario Manufacturers should implement Environmental Codes of Practice for their operations. Codes of Practice implementation should be required for all large manufacturers by 1995 and for all small manufacturers (fewer than 100 employees) by 1998. At a minimum, Codes of Practice should cover:

    . environmentally sound management of all waste
    . minimum contamination of all water discharges
    . minimum contamination of all air discharges
    . extension of the principles of WHMIS (right to know, labelling, etc.) to the community surrounding the plant
    . efficiency in the use of all raw materials and resources

29. Ontario Manufacturers, in cooperation with governments, industry associations and environmentalists, should undertake to make comparative product environmental impact information available to consumers by 1996 which would assist consumers in making informed decisions regarding the products they consume. Environmentally relevant information may include: recycled content of inputs, wastes generated through production processes, emissions to air, water and land from product manufacture, product energy efficiency ratings and energy use.

30. Ontario Manufacturers should make available to current and potential investors, through annual reports and prospectus documents, information relating to its compliance with environmental statutes, control orders, regulations, standards and other environmental obligations. These reports should additionally outline environmental objectives for the coming year along with an assessment of actions necessary to address statutory requirements that are not presently being met. (Again, see Appendix E for such an information source).

31. To secure a level playing field internationally, Ontario Manufacturers should take the lead in identifying the most stringent environmental regulations in other jurisdictions and should actively encourage a multi-media approach to the adoption of these regulations globally.

32. Major Industry Associations in Ontario should make available non-proprietary information by 1993 on "clean" process and product technology, successful waste management practices and process optimizing techniques to small business sector as a means of the raising the environmental and economic performance levels of all industry. This would have the additional benefit of publishing information which would lead to the identification of domestic and international commercial opportunities.

4. FULL COST PRICING AND ACCOUNTING

Task Force Conclusions

The prices for most goods and services in market based economies do not generally reflect the environmental or social costs associated with their manufacture and use. As a result consumers, including governments, industry, institutions and the public, are generally unaware of the environmental impacts that result from their consumption patterns and behaviours. The movement towards resource pricing arrangements which more closely reflect the environmental and social costs associated with resource use is viewed by many stakeholders as a rational approach to resolve environment and economy conflicts over the longer term.

The objectives for pricing resources at levels which reflect their environmental and social costs are to encourage efficiency, increase accountability, modify behaviours and to move towards resource use rates that are sustainable over the longer term.

The use of economic instruments as a complement to environmental regulations has also been broadly discussed amongst stakeholders as an initial means of moving in this direction. Through the use of mechanisms such as pollution taxes, deposit refund schemes, emission trading schemes and other market oriented approaches that are based on the principle of revenue neutrality, there would be much more incentive for industry (and consumers) to deal with ongoing sources of contamination than under the present system of environmental regulation with litigation which only addresses the environmental damage resulting from production activities (not consumption).

As for consumers, there is little incentive to economise on their use of public resources where the degree of subsidy is high or where current costs are not fully recovered in the pricing structure. User pay schemes have been broadly endorsed for many years as a means of ensuring an appropriate level of demand for a given resource.

Care should be taken in moving towards full cost pricing to not adversely effect the competitiveness of the manufacturing sector in Ontario. Ideally, the processes by which environmental and social costs are brought into the pricing structure should be done in conjunction with our trading partners.

The transitional processes should also be undertaken in a manner that does not necessarily increase the current cost burden faced by industry or consumers nor in a manner that necessarily increases the revenues generated through various taxation measures used by governments. Offsets in other areas of taxation offer the possibility of providing appropriate incentives to meet efficiency and environmental protection objectives of government without necessarily raising the tax burden on society.

The initial implementation of full cost prices should be undertaken in regulated markets, such as energy utilities, and service areas including water, sewer and waste management, where international competitiveness considerations are not as directly at stake.

Where price adjustments are agreed to, they would obviously need to be phased in - some 5 to 10 years - with all players being given sufficient lead time to make the necessary adjustments in their capital allocation and expenditure decisions.

Recommendations for Government - Full Cost Pricing and Accounting

33. The Government of Ontario, in consultation with manufacturers and environmentalists, should institute the use of economic or market based instruments in order to provide industry with the necessary incentives to resolve ongoing environmental contamination problems regarding air and water discharges and the generation of waste.

    The implementation of such instruments should be undertaken in a positive manner, similar to the way the Industrial Accident Prevention Association contributes to the resolution of potential plant safety deficiencies.

34. The Government of Ontario should ensure that the Fair Tax Commission comprehensively examines the ways and means of encouraging environmentally responsible activity in Ontario through managed adjustments to the tax system. Activities to be encouraged should include resource use efficiencies, value added (knowledge based) manufacturing, 4Rs activities, clean product and process technology development and adoption, and sustainable levels of consumer demand.

35. The Government of Ontario should encourage the Canadian Institute of Chartered Accountants to expedite the development of appropriate accounting and disclosure requirements for corporate liabilities relating to environmental contamination.

36. The Government of Ontario should adopt full cost resource pricing and accounting as long term objectives for Ontario.

37. The Government of Ontario, with the Association of Municipalities of Ontario, should provide consumers of public services, including water, sewage and waste, with information that outlines the life cycle costs associated with the provision of these services. The Government of Ontario should ensure a degree of consistency in the implementation of this policy across the province.

Recommendations for Ontario Manufacturers - Full Cost Pricing and Accounting

38. Ontario Manufacturers and their respective associations should consider taking the lead in moving towards full cost pricing. This may be accomplished through the establishment of working groups with environmentalists and invited representatives from labour and government to develop a strategy to move towards full cost pricing within their respective sector. Recognizing the need to consider international trade, social impacts, employment concerns and other factors that impinge on sustainability, the working groups should establish targets that would help make the Ontario industry sector a leader in implementing sustainable development through full cost pricing. Where the working group identifies the need for new government regulation to ensure a level playing field, the industry-led working group should make the necessary recommendations to the appropriate minister. The minister should recognize that the proposed regulation has emerged from a multi-stakeholder working group in moving to implement the proposal.

5. TECHNOLOGY

Task Force Conclusions

Technology is a key lever for society in moving towards more sustainable forms of development, in terms of (a) reducing the environmental impact of human activities, (b) developing new products, processes, and services that can be brought to domestic and international markets, (c) making information on the state of our environment and economy more readily available, and (4) in restoring damaged areas.

Technology, while important, is no panacea for sustainability. Many technologies pose significant risks to society as well as having encouraged our largely once through economic system of converting natural resources to end products that are discarded following limited in-service lives.

Again the emphasis should be place on front end technologies as a key focus for research and development. This is not intended to diminish the importance of the environmental protection industry and pollution abatement equipment which may well be required for the majority of in-service operations. But the fertile common ground is largely centred on "clean" process and product technologies, which are, by design, low in impact on the environment and efficient in their use of resources.

For Ontario to improve its environment as well as remain competitive internationally, we will need to develop and adopt resource efficient means of production and aggressively market our technical expertise and services around the globe.

Recommendations for Government - Technology

39. The Government of Ontario should expand the current application of accelerated capital cost write-offs (Ontario Capital Cost Allowances) for the development and adoption of clean and efficient process technology to encourage environmental and economic excellence, capital formation and capital expenditures by industry in Ontario.

40. The Government of Ontario, as part of its instructions to the Fair Tax Commission, should request the Commission to explore what further tax adjustments are necessary to encourage energy and resource efficient means of production in Ontario.

41. The Government of Ontario should continue to encourage environmental excellence through the setting and enforcement of tough environmental standards for emissions to air, land and water.

42. The Government of Ontario should expand the funding to the Manufacturing Centre of Excellence to increase its focus on environmentally responsible product and process design technology, to increase the awareness of the Centre by the manufacturing community in Ontario, and to develop programs which focus on the environmental protection needs of small businesses, recycling technology, and appropriate technology transfer.

43. The Government of Ontario should ensure that full social and environmental assessments are included as part of research and technology development efforts that receive provincial funding.

Recommendations for Ontario Manufacturers - Technology

44. Ontario Manufacturers should increase their research, development and adoption of state-of-the-art "clean" process and product technology as part of their corporate commitment to the communities in which they operate and as part of their long terms commitment to environmental and economic excellence.

45. Ontario Manufacturers should take the lead in the establishment of an institute for appropriate environmental technology transfer. This institute should seek out opportunities that would utilize Ontario expertise in the development of economic activity consistent with sustainable development principles around the globe. It should also identify appropriate technologies that could improve the economic and environmental performance of Ontario based manufacturers.

46. Ontario Manufacturers and others in technology development and commercialization should pursue the exportation of technical services and appropriate technologies to the developing countries and Eastern Europe to contribute to the resolution of environmental problems and to capitalize on technical and commercial capabilities of Ontario's manufacturing community.

47. All Ontario based employers should establish cooperative programs with their employees which would allow for the identification and successful implementation of efficient process and product technologies.

Overall Conclusions

The Manufacturing Task Force believes that there is much common ground in the pursuit of sustainable development. Through demonstrated leadership by all sectors in Ontario and through the building of effective and meaningful partnerships between environmentalists, employees, governments at all levels and the business community, we will all be in a better position to assess the progress we have made and to identify what further actions are necessary in working towards a secure common future.

Achieving the Round Table's six principles for sustainability will not be easy within the manufacturing sector. Producers, consumers and all levels of government each have an important role to play. But the transition to sustainable development will certainly be facilitated where effective leadership is widely demonstrated, and where more effective decision making processes, more accurate and richer information, full cost pricing and accounting techniques and appropriate process and product technologies are fully utilized.

While each of these means or levers has been discussed separately, they can and must work together to effect the necessary changes in developing in an inherently more sustainable manner over the course of the 1990s and throughout the 21st century.

Appendices

Appendix A	Stakeholder List
Appendix B	Questionnaire Responses and Other Stakeholder Views Summary
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Appendix A

STAKEHOLDER LIST - MANUFACTURING

Code Key: 1= Responded to Questionnaire
2= Participated in Workshop
3= Made additional verbal or written submission

Industry/Industry Associations

3M Canada Inc.

Abitibi Price Inc. (1)

Ajax Energy Corporation

Alberto-Culver Canada Inc. (1)

Alcan

Algoma Steel Corporation Ltd.(1)

A.M.P.C.O.

Automotive Parts Manufacturers Association (1,2)

B.F. Goodrich Canada Inc. (1)

BASF Canada Inc. (1,2)

Baxter Corporation (1)

Blount Canada Ltd. (1)

Boeing Canada

Browning Ferris Industries Ltd.

Calgon Carbon Canada Inc.

Campbell Soup Company

Canada Cup Inc. (1,2,3)

Canada Square Resins (1)

Canadian Chemical Producers Assoc.(1)

Canadian Environment Industry Assoc. (2)

Canadian Federation of Ind. Business (2)

Canadian Fine Colour Inc. Ltd.

Canadian Gas Assoc.

Canadian Oxy Chemicals Ltd.

Canadian Pulp & Paper Assoc. (1)

Canadian Soft Drink Assoc.

Canadian Tire Corporation

Carrier Canada Ltd. (1)

CCL Industries (1)

Centra Gas (1)

Central Soya of Canada Ltd. (1)

Chesebrough-Ponds's (Canada) Inc. (1)

Chrysler Canada (1)

CIBA-Geigy Canada Ltd. (1)

CIL Inc.

CocaCola Ltd. (1)

Conchem: A Division of Standard Ind.

Consumers Gas Co. Ltd. (1)

Courtaulds Fibres Canada

Cyanamid Canada Inc. (1)

Dearborn Chemical Co. Ltd. (1)

Dofasco Inco.

Dow Chemical Canada Inc. (1,2)

DuPont Canada Inc.

Dual Removal Systems Limited (2)

E.B. Eddy Forest Products

Eco Corporation

Ecotec Inc., M. Loveys (2)

Energy Pathways (3)

Enviroclean

Environment & Plastics Institute of Canada (EPIC) (1)

Esso Chemical Canada (1)

Esso Petroleum Canada (1)

Essroc Canada Inc. (1,2)

Ethyl Canada Inc. (1)

Falconbridge (2)

Fisher Gauge Limited (1)

Ford Motor Company

G.E. Canada Inc. (1)

General Chemical Canada Ltd.

General Motors (2)

Great Lakes Environmental Systems Inc. (1)

Greenspoon Bros. Limited (2)

Grocery Products Manufacturers of Canada

Hankin Atlas Ozone Systems Ltd. (2)

Hart Chemical Ltd. (1,2,3)

Hiram Walker & Sons Ltd. (1)

Honeywell Ltd. (1)

Husky Injection Molding Systems Ltd. (1)

IBM Canada Limited (1)

ICI Canada Ltd. (1)

ICI Nitrogen Products (1)

Imperial Oil Ltd. (ESSO) (1)

Intermetco Ltd.

Iogen Corporation (1)

International Iron and Metal (1)

ITT Canada Ltd. (1,2)

Javex Manufacturing Co.

Kellogg Canada Ltd. (1)

Laidlaw Environmental Services Ltd. (1)

Lambton Industrial Society

Lepages Ltd. (1)

Liquid Carbonic Inc. (1)

MacMillan Bathurst (1)

MacMillan Bloedel

Maharg Resources Corp.

Metro Toronto Board of Trade (2)

Molson Breweries

Mondex Trade & Development Corp. (1)

Monsanto Canada Inc. (1)

Motor Vehicle Manufacturers Association (2)

Nacan Products Ltd. (1)

Nalco Canada Inc. (1)

Navistar International Corp. (1)

Niagara Waste Systems Ltd.

Noranda Minerals Inc.

Nordion International Inc.

North American Plastics Co. Ltd.

Northern Telecom Ltd. (2)

Nova Corporation of Alberta

Ontario Forestry Assoc.

Ontario Mining Assoc. (1)

Ont. Public Interest Research Group

Ontario Waste Management Assoc.

Paperboard Industries Corporation (1)

Peterborough (Pet.) Chamber of Commerce - D. Frise (3)

Peterborough Home Builders Association - P. Cleary (3)

Peterborough Paper Conv. - J. Robinson (3)

Philip Environmental Group

Procter & Gamble Inc. (1,2)

Purezone

Quaker Oats Co. Canada Ltd. (1)

Quebec & Ontario Paper Co.

Rockwell Intl. Suspension System Co. (1)

Rohm and Haas Canada Inc. (1)

Safety-Kleen Canada

Shell Canada (1)

Slater Steels

St. Joseph Printing Ltd. (1)

St. Lawrence Cement (1)

St. Mary's Cement Corp. (1,2)

Stanley Tools Canada Inc. (1)

Stelco Inc. (1,2)

Stepan Canada Inc. (1)

Stone and Webster Ltd. (1)

Sullivan Strong Scott (1)

Swiss Maintenance Ltd. - M. Wilson (3)

Taro Aggregates Ltd.

The Canada Metal Company Ltd. (1)

The Canadian Manufacturers Assoc. (1,2)

The Soap Factory

The Upjohn Company of Canada (1)

Toronto Dominion Bank

Tridon Ltd. (1)

Union Gas Ltd. (1)

Uniroyal Chemical Ltd.

Vincent Press - J. McCulloch (3)

Walker Exhausts (1)

Warner-Lambert Canada (1,2)

Westinghouse Canada Ltd.

Williams Operating Corporation

WMI Waste Management of Canada

Zenon Environmental Inc. (2)

Government

City of Peterborough - I. Bateman (3)

City of Peterborough - L. Groombridge (3)

Ministry of the Environment (1,2)

Non-Government/Non-Industry Associations

Amalgamated Clothing Workers Union (2)

Canadian Paper Workers' Union (2)

Conservation Council of Ontario (2)

Ontario Federation of Labour (2)

Peterborough Sustainable Development Task Force - J. Stocker (3)

Recycling Council of Ontario (2)

Native Organizations

Canadian Council of Native Business (2)

ANALYSIS OF RESPONSES TO MANUFACTURING QUESTIONNAIRE

Category of Respondent	# of Responses	% of Total
Forestry/Paper Products	6	7 %
Chemicals/Petroleum and Natural Gas and By-Products	26	31 %
Steel/Metal Recycling	5	6 %
Auto/Truck/Auto and Truck Parts	6	7 %
Consumer Goods	12	14 %
Plastics/Material Coatings/Molds and Machinery	10	12 %
Electronics/Electronic Equipment	7	8 %
Bulk Material Handling Systems	2	2 %
Pharmaceuticals	2	2 %
Food/Food Processing Equipment	4	5 %
Cement	3	3 %
Waste Management Services	3	3 %
Total	86	100 %

Appendix B

Questionnaire Responses and other Stakeholder Views Summary

The following summary is based on a review of some 65 questionnaire responses, a series of interviews conducted by Task Force members and responses received from the July 10 workshop.

Questionnaire summaries are presented as follows.

Question #1 - Actions undertaken to reduce emissions to air and water and degradations of the land:
Many of the respondents have instituted comprehensive programs to monitor and reduce environmental discharges. Others have installed recycling or pollution control equipment. Process optimization has also been used to improve efficiencies and reduce waste. Several companies have set ambitious targets and established comprehensive programs to reduce emissions within specific time frames. Three R programs were most often cited as a means of reducing land impacts. Several respondents cited the introduction of training programs and emergency response measures to minimize damage should accidents occur. Several companies have undertaken to modify product formulations or drop product lines that damaged the environment.

Question #2 - What process or product changes have been undertaken to use recycled or renewable materials in the manufacturing process:
Most respondents cited various 4R initiatives in response to this question. Roughly one third identified trying to source renewable or recycled materials from suppliers. Numerous companies used waste materials or byproducts as fuel substitutes. Extensive reuse of scrap steel and other materials within reasonably closed loop operations were identified as standard steel industry practice. Recovery and regeneration systems
were cited in reducing the need for virgin supplies. The cement industry mentioned its interest in making greater use of available waste materials in offsetting its coal requirements but that it has had difficulty gaining approval from the Environment Ministry for doing so.

Question #3 - What actions have been taken to reduce energy use:
As energy represents a significant cost centre for manufacturing operations, most respondents indicated having taken considerable measures to reduce energy use. Many have ongoing programs to both monitor energy use and improve efficiency. The Ontario Hydro energy audit program was often cited by respondents. In house energy auditing programs were also frequently mentioned. Water recycling, fuel switching and process optimization were additional actions cited. Process and product redesign were only mentioned by a few companies.

Question #4 - Actions taken with suppliers to ensure sustainability of supplies:
Roughly half the respondents mentioned ongoing efforts with suppliers to ensure delivery of raw materials. Few companies seemed to be concerned with the longer term availability of raw materials although those within the petrochemical industries recognize the finite nature of the raw materials their industry is based on.

Questions #5 and #6 - Actions to reduce solid and hazardous waste and the management of waste:
Responses to these questions largely reflected the answers provided to question #1. Product redesign and reformulation were often cited as were ongoing and intermittent 4R initiatives. Alternative uses for previously considered waste materials was cited in several cases - steel furnace slag has been used as a cement for roughly a decade. Several companies were adamant that no hazardous waste was generated or used within their facilities. Several companies were going to higher grade inputs as a means of reducing waste byproducts and others were screening the raw or recycled materials they received for evidence of hazardous waste contamination. Switching from hazardous to less hazardous raw materials were also cited. As waste is also a cost centre, financial returns for not generating waste in the first place along with government waste reduction targets were identified as the main driving forces for change.

Question #7 - Involvement of staff at all levels in the Development of environmental protection programs
Responses to this question were quite disappointing as few companies had active programs that encouraged the involvement of labour, technical and office employees in environmental improvement programs. The exception the Canadian Chemical Producers' Association Responsible Care Program that stipulates active involvement of employees, suppliers and users of raw materials and end products. Management directives were the most often cited driver for such efforts. Employee suggestion programs were commonly cited for in office recycling type programs.

Question #8 - Obstacles to taking further action
Numerous barriers were cited including:
. industry is generally a price taker - increased costs reduce profits or make marginal operations uncompetitive
. competing demands for funds
. regulatory barriers for fuel substitution
. slow approval times for Certificates of Approval
. technology unavailability
. lack of markets for recycled materials
. time and money
. uncertainty over political agenda
. insufficient allowance for conversion period
. lack of uniform standards across provinces
. internal resistance for environmentally acceptable programs with lower rates of return on investment

. persistent, constant and overwhelming encouragement of wasteful practices by government, full costs are never reflected in prices charged, inconsistency in government actions, multi-billion dollar subsidies by the federal government for the development of offshore oil
. lack of uniform enforcement by governments
. myriad of government programs at all three levels - no priority
. poor information concerning the source of the problem
. rational/knowledged based setting of priorities would help
. lack of cooperation by government in getting industry's input to the development of meaningful/realistic guidelines
. predicting environmental impact on project costs is difficult due to changing regulatory limits based on poor science
. lack of clear priorities
. environmental regulatory requirements out of phase with reality
. large costs involved in trying to do it all at once
. only conflicts between environmental and economic goals are misinformation and ignorance in government circles regarding what waste diversion and energy conservation can achieve
. uneven playing field
. politically rather than science driven requirements

Question #10 - Roles for key players:

Governments:

Comments included: work with industry and the public in setting regulations, encourage at source reductions rather than landfill, provide financial support, reduce roadblocks, educate the public, stimulate production of better technologies, demonstrate economic responsibility, encourage recycling and reuse through taxation, legislate recycled content, enforce existing laws and clarify proposed legislation, set outer bounds for businesses to operate within and provide flexibility to businesses in staying within those bounds, and harmonize regulations across the country.

Business:

Comments included: build markets for recycled materials, develop and apply new technology, reduce energy and resource consumption, think and plan long term and be accountable for the environmental consequences of its activities; develop economically viable alternatives, maximize recycling, educate employees, work with governments in setting regulations, accept life cycle responsibility for products; must find a balance in a macro-sense, can't just look at individual operations; generate wealth, jobs and protect the environment, lead by example, set industry wide goals, make environmental considerations an integral part of doing business, apply pressure through purchasing practices, undertake self-monitoring programs with appropriate accountability systems; stop using the environment like petty mucksters - business needs to focus on value systems which are more fundamental to a sustainable role of life on this planet rather than solely on the bottom line; communicate innovative solutions, support pioneers and work with suppliers and consumers to form a sustainable loop, develop and institute codes of practice covering the entire organization; continually improve environmental performance, pool resources and technology to address major issues, improve productivity and training, help educate the public

about the safe and effective use of their products.

Non-Governmental Organizations:
Comments included: provide credible information, dialogue, cooperate with industry, work with industry and governments to ensure that societies needs are met, serve as intelligent informed critics, educate consumers, appreciate progress that has been made and avoid sensationalism, take time to understand all of societies problems - single issue advocacy is no help, be credible but fair, set objectives based on valid science, advocate need for change to governments, conduct research and communicate concerns, work with industry to create solutions, get current on regulations and how industry operates today, provide timely information, monitor the development and enforcement of standards, educate consumers, work cooperatively with business and governments to develop solutions.

Labour:
Comments included: get involved, work with management, communicate concerns, accept responsibility for finding solutions, improve productivity, become better educated, support industry's efforts to develop sustainable technologies, become more aware of labour's role in sustainability, accept cross training as inevitable and build environmental protection responsibilities into job specifications, promote personal responsibility in the work place, get involved in volunteer committees, be part of the education process and criticize fairly.

Educators:
Comments included: promote balanced informed discussion, start with the young, get the facts right in the first place, educate the public about product efficacy, increase awareness amongst society, be a true portrayer of facts, teach cost/benefit analysis, need for science and technology, educate more on environmental sustainability, teach kids the fundamentals of environmental concerns and the practical how to's, learn about the overall problems and solutions, ensure that everyone is involved in the solution, teach students to evaluate both sides of the story, have students evaluate their own value system,open the education system to business and encourage them to communicate their positions on critical issues, keep up the good work; get educated - our abysmal levels of school and college performance in reading, writing, computing, analysis, investigation, imaginative thought and wide perspective thinking is appalling, teach complete analysis, teach full cost accounting to commerce and MBA students, increase environmental engineering courses, carry out multi media studies, develop universal standards useful to decision makers, find out how nature really works so that they can teach environmental technology rather than preach environmental theology.

Consumers:
Comments raised include: educate yourselves, pull your own weight, communicate concerns, promote consumer and technical education, accept that all products pollute, change packaging demands, reuse as well as recycle, consume and vote smarter, be prepared to adjust life styles, think quality and durability rather than price and fashion, question propaganda, eliminate frivolous and unwarranted legal suites, recognize that their consumption patterns are the key drivers for business, make informed choices, buy products made with recycled material, be

willing to pay more for environmentally responsible products, stop abusing products, stop polluting and wasting and start conserving where possible, monitor governments on promises and delivery.

Comments From Interviews With Stakeholders:

Small businesses are not microcosms of large businesses - they lack both the financial and technical resources to deal with many of the regulations for environmental protection in effect.

Industry and trade associations have a key role in policing and educating memberships.

Levers for change include: government regulation or fear of same, peer pressure and financial payback for becoming more efficient.

The Responsible Care Program of the CCPA is a good model for others looking to improve their environmental performance.

Industry associations need to develop their own codes of practice and promote them vigorously.

Individual responsibility is key for environmental protection.

Industry needs financial incentives to make the necessary changes and publicising both good and bad guys would assist in getting action along environmental protection lines.

Environmental improvements come from the management processes employed in industry; need to start with top executives and work down the organization.

We need to set priorities; industry and society can not do everything at once; employees need to be evaluated on their environmental performance.

The infrastructure needs to be there to meet demand for recycled materials.

Input From Manufacturing Task Force Workshop - July 10, 1991
Opening Plenary Discussion
Comments Raised

Issue #1 - Protecting the Biosphere

. need to make explicit the link between environment and health, including worker safety and health where workplace hazardous contaminant are involved
. too much public money is directed at the soft costs (process for discussing problems, bureaucracy and overhead) and not enough on taking corrective action
. our actions need to be put in context of what is happening/ expected to happen globally - ten billion people globally by 2030; Ontario and Canada need to set an example for others to follow with respect to environmental activities
. municipalities have an important role to play but they can delay and have delayed expenditures on sewage and water systems and landfills that would benefit the environment
. problem outlined in consultation document should be with respect to the accumulation of specific contaminants in the environment, not their release when **thresholds** are considered
. societies efforts are not centred on the real problems (part of the problem is that we do not have the information that would tell us what the key focal areas are) Hamilton Remedial Action Program is an example where most of the emphasis has been directed at industry although it is not the main source of persistent toxic contaminants entering the lake
. we misuse our language, resources are generally exploited and not developed; Ontarians are high per capita consumers of natural resources; consumption is the main source of environmental decline; we export manufacturing only to import cheap goods; products are already too cheap; the global trading system is perverse

Issue #2 - Remaining Competitive

. we need a provincial strategy that would add value to the province's natural resources; we should strive for international excellence in the field of environmental protection; we should follow the industrial strategy employed by the federal government in the 1950s to build an aerospace industry; we should look to protect the biosphere on a global basis through technology as a means of remaining competitive
. Ontario's main source of competitive advantage is our access to relatively low priced energy and natural resources; and that artificially inflating the price of energy and water as part of a full cost pricing policy could give away that advantage
. the adoption of international standards for environmental protection are required; the same standards should apply for importers that apply to local producers of goods and services; competitiveness needs to be looked at as part of sustainable development where investments are geared towards a green economy; government programs should support industry for going beyond current standards
. we need to integrate with the rest of the world, not the other way around; we can compete if we focus on quality products that have minimum impact of the environment through their life cycle, clean technologies offer the potential to remain competitive and improve our environment
. environmental standards could well form the next round of non-tariff trade barriers, potentially

throwing the world into another depression; internationally determined standards are required, not unilaterally imposed ones; the Feds should push this objective through the General Agreement on Tariffs and Trade

. need real involvement of all stakeholder groups in discussing and improving competitiveness - labour and management need to begin talking in earnest; capital mobility poses a real barrier in getting management to take unions seriously

. achieving a level playing field is a goal and a barrier; varying standards affect plant location decisions

. several options available to society have been cut off for consideration - eg. Japan has 2000 Energy From Waste plants - potential for addressing two areas of concern - waste management and low cost fuel source could be addressed through this means

. regarding waste management - if you make it you take it - ie producers should be responsible for the waste management once the consumer has finished with their product, we should not burry others solid waste

. environmental technologies should be developed as a key source of competitive advantage

. challenge to industry and challenge to government are avenues that should receive greater attention by allowing for the exploration of the waters before regulations are brought in

. there needs to be greater accountability for use of public services; the payroll tax was cited as an example where governments tax a small element of society and confer a benefit on society as a whole at the expense of competitiveness

. regulations need to respect environmental thresholds

. need to set the competitiveness challenge to industry

Issue #3 - Making Better Decisions

. scientific method for making decisions should be used rather than political rationale. Decisions should be based on life cycle analysis of processes, products, services and chemicals; the bottom line should not override environmental standards or needs; the issue of who performs the science is contentious; there are difficulties in removing politics from science; scientific method does not equate with science - science changes all the time

. industry needs to pursue clean, green and cost effective technology

. industry is generally ahead of government, except in terms of the environment, it needs to become more proactive; CCPA Responsible Care Program is an example where industry has taken initiative and has made significant strides forward

. incentives are required for environmental improvements, recognition needs to be given for environmental improvements to date (% decrease in emission levels hurt those who have made improvements already) and improvements needs to be publicized

. few incentives now exist for companies to go beyond current standards

. the best gets in the way of better; can't afford to wait for the perfect solution; politics needs to recognize this - incineration as an example

. lack of technology re recycling (options) poses many barriers to those wishing to make changes for the better

. need ongoing monitoring programs and cross disciplinary studies/interaction; we too often look for fault and not enough on teamwork

. need involvement of all stakeholders, need to make use of all tools available including

regulation, incentives and education
. need up front process requirements spelled out re Environmental Assessment and Certificate of Approval processes
. making better decisions is a key component of sustainability; national priorities/standards/directions are required; Canada/Japan workshop cited as kind of approach that would be of benefit - clear direction, objectives, common commitment, incentives to develop technology and take leadership
. placing blame should not be the primary focus of our efforts
. industry has not been standing still
. need for real consultation, more breadth, depth and actions need to be seen flowing from consultations

Issue #4 - Better/Quality Information

. need to link information (State of Environment Reporting) into decision making framework/strategy; system of national accounts work is being undertaken by Statistics Canada and Environment Canada; need to ensure minimum overlap between feds and the provinces and national data should be capable of being segregated into provincial numbers
. need two streams of information coming out of work - (1) technical and (2) for public consumption re are things getting better or worse at the gut level; needs to be linked into policy and needs to be accessible and understandable
. skills need to be developed in the areas of interpretation, conceptualization and analysis of State of the Environment data
. information collected by government is geared towards punishment and prosecution; entire governmental structure would need to change in order to encourage free flow of information between private and public sectors; incentives need to be developed to encourage this exchange of information
. education needs to cover illiteracy in both environmental and economic fields and across all segments of the population spectrum
. issue of data/information overload by public and governments, too much noise in data, not enough value added information

Issue #5 - Ensuring that Prices Reflect their Full Costs

. need to approach the issue of full cost pricing with caution, it could hurt competitiveness of the manufacturing sector
. governments have not shown any ability to lower taxes regardless of offset provisions
. energy subsidies (for energy sources such as atomic energy and Hibernia) have so skewed public policy and consumption patterns in this country that many alternatives are not fully in place - e.g. public transit
. issue is really one of corporate/governmental and individual accountability with resect to protecting our environment
. need to be realistic about how far you can hold manufacturers accountable for effects of activities in international market
. difficulties exist with respect to costing certain items (ozone layer and value of wildlife, and health)

. need to assess cost of doubt, costs (externalities) are being borne by the system already in terms of clean up and health expenditures and reduced amenity values
. Full Cost Accounting will clearly change the rules; we need to manage this adjustment process and period very carefully
. the issue is coming, the public wants it, if business ignores the issue they will be hurt badly
. need to involve all sectors in discussing the issue
. user pay limits access to resource; labour opposed to user fees
. end consumer is really the key with respect to this issue; how else do you ensure public accountability for their actions and behaviours, need to consider more than just business sector in this issue
. notice of cost of service is first step towards accountability, information/education value of concept is very important
. need to look for areas where concept can be exploited with little or no down side to its application (revenue neutrality - winners and losers are same group)
. large research component to issue
. FCA is means to an end, a means of achieving a purpose that most would agree with; we don't need pure costs for this mechanism to be effective; accounting considers most substantive elements in accounting for an enterprise
. need to provide incentives to shift focus to the front end of the decision making process over time, away from abatement (end of pipe and better waste management processes) and towards prevention (clean process technology and low waste generation in the first place); need to consider monies saved and new industrial opportunities
. need to consider cumulative impact of discharges, FCA as 1 mechanism like standards and education
. centrality of the issue to manufacturing and our present economy; FCA designed to initiate change over time; current accounting systems do not consider inherent value of nature, they only consider costs associated with extraction and processing; FCA requires a lot of thought; if we don't do FCA we are unlikely to have a manufacturing sector over the longer haul

Issue #6 - Role of Technology

. the industrial scale in Ontario makes commercialization of promising technologies difficult, from both applications and financing perspectives; public policy should focus on assisting with the commercialization and uptake of such technologies
. labour needs to be considered a full partner in the technology development and application processes
. techniques need to be considered along with the nuts and bolts of technology; technique as the software can assist in the delivery of the benefits associated with particular technologies (hardware); how the technology is used is as important as the technology itself
. a manufacturing research corporation (Ontario government agency) already exists and has some degree of focus on environmental technologies
. there is too much emphasis on large scale technology solutions to our problems; macro/micro approaches need to be in balance

Issue #7 - Measuring Progress

. need both objective and subjective measures to make progress
. need objectives to aim for with targets and timetables to measure our progress; need to connect measurement with objectives and strategies to ensure closure is achieved or corrective action is taken
. lack of review associated with current societal measures; how much of those taken filter down to the public
. sustainability does not equal substitution
. need to minimize the environmental impact associated with human activities
. require diversity and volume for ecological integrity
. at what level do we need to define sustainability (what constitutes the system
. need to articulate goals to the public and ensure their continued visibility
. only so much money and other resources to go around; we need to focus our efforts on those issues where the greatest benefits is derived for the resources expended

Options Discussion - Afternoon Session

Issue #1 - Protecting the Biosphere

. need to move level playing field successively higher
. standards and priorities need to be set at the national level
. need to encourage self regulation by industry
. need multidisciplinary approaches and efforts
. need a strategy
. need more decisions out side of the political arena or make the arena more publicly accessible

Issue #2 - Remaining Competitive

. specify long term goals: phase in of standards (BATEA) as an interim measure for existing operations; adopt BATEA for new facilities
. adopt contaminant specific limits
. industry to decide means of limit attainment, government as setter of limits
. options need to be more specific
. require clear articulation of governmental policy regarding environmental protection while remaining globally competitive
. ensure level playing field across country in terms of standards and enforcement (CCME to play key role in ensuring level playing field) - national associations to also press for level playing field as part of service to associated companies - feds through GATT to ensure level field internationally - at least amongst OECD nations
. pricing resources that are currently not priced should not be viewed as a revenue source for government (not a tax grab)
. incentives for improving environmental performance should be provided - no indication of source of funding
. user fees should result in lower taxes in other areas that are currently taxed
. consider notification of service provision costs to users as an interim step towards adoption of user fees - important educational tool - collection of user fees is difficult, mentality of

government provision is already fixed
. prevention is cheaper than cleanup
. prices for products should more clearly reflect environmental costs associated with their manufacture and use
. tax priorities shift too easily
. need to recognize competitiveness sensitivity
. trade and industrial associations should assist in demonstrating and transfer of technologies and techniques as well as serve as information dissemination forum
. also need education on basic economics for all Canadians
. technology transfer database on CFCs established by industry could serve as an effective model of industrial and national cooperation in resolving environmental problems

Issue #3 - Making Better Decisions
. national protocols process is required - Canadian Council of Environment Ministers should play a lead role in initiation of processes to make decisions; need to identify lead proponent; need to have others buy into work; need harmonization across other jurisdictions; need involvement of labour

Issue #4 - Better/Quality Information
. encourage standard protocols for gathering and dissemination of information to everyone
. emphasize sharing of data internationally - satellite mapping for instance
. ensure standardized reporting procedures - all involved in setting of standards

Issue #5 - Ensuring that Prices Reflect their Full Costs
. axes collected should be dedicated towards resolving environmental problems (pilot project to assess feasibility or review experience in other jurisdictions)
. couple regulatory requirements with economic incentives
. performance standards should be used to encourage innovative technologies and ability to recognize and manage costs
. institute user pay for services like water and sewer - review sustainability of such a system - program should not be a tax grab (revenue neutral)

Issue #6 - Role Of Technology
. government to serve as technology transfer vehicle for marketing indigenous technologies overseas
. government to provide incentives (tax or otherwise) to improve the commercialization of technology
. management systems should reflect environmental performance of employees and divisions in both evaluation and rewards
. funding by government and industry should be provided to establish environmental chairs of excellence
. labour and management joint health/safety committees should be extended to include environmental protection - consideration should be given to involving someone from the local community as well - worker protection should be provided for the identification of plant

environmental problems

- government (Ministries of Labour, Industry Trade and Technology and Environment) should initiate a 5 star program for environmental protection similar to that for health and safety - clear criteria should be set for measurement, financial or other incentives should be provided
- should assist small business in change through accessing technologies/techniques they would otherwise be unable to reach
- codes of practice should be extended beyond the chemical industry and could use responsible care program as a model to follow
- incentives should be provided for the adoption of existing technologies that would improve economic and environmental performance
- incentives for small business could include loan guarantees in order to reduce the payback period

Issue #7 - Measuring Progress

- need to establish baseline data
- need to recognize existing accomplishments in setting performance measures - credit for efforts undertaken in the past as well as credit for those that go beyond compliance
- need to be careful re % reduction targets that may benefit those that have poor historical records of discharge abatement
- complete toxic release inventorying as has been undertaken in the United States - as a means of establishing priorities and with a view to improve on the US model - Municipal Industrial Strategy for Abatement and Clean Air Programs appear to be heading in this direction
- CAP needs to sample stacks to establish representative data and release points - can not expect to sample all points of discharge for operations such as auto assembly plants
- need to measure stock and flow of natural resources as part of baseline "capital" assessment/measurement system
- need to avoid duplication and overlap between provincial and federal governments - coordination is required as is information sharing, national data should be capable of being broken down into provincial data - need to streamline administration of collection and management of data

Peterborough Consultation - Comments Raised

Speakers making presentations :

Les Groombridge - Director of Economic Development, Peterborough
Jim Robinson - VP, Peterborough Paper Convertors
Joe McCulloch - President, Vincent Press
Jill Stocker - Chair of Peterborough SD Committee
Don Frise - Peterborough Chamber of Commerce
Bill Prentice/Art Stacey - Managers, Swish Maintenance
Ivan Bateman - Solid Waste Coordinator, Peterborough

Jim Robinson

. larger companies generally have the resources to undertake environmental initiatives, smaller companies generally do not
. recycling of coated papers is a problem, reduction and reuse are not - technology for recycling is lacking
. internal reorganization was required in order to effect waste management policy
. need to recognize market demands now much more than ever; markets have changed, the world has changed
. concern over MISA regarding paper coating materials (CaCO3) relatively benign product that is having limits set for
. environmental legislation is restrictive to competitiveness
. business is an easy target to identify, monitor, and hold accountable
. need reality in regulatory system; economic programs need to reflect environmental concerns, environmental programs need to reflect economic concerns
. industry does not feel threatened to have internal audits undertaken, making reports public does raise level of concern

Joe McCulloch

. need for recyclable packaging materials
. suppliers will not generally take packaging materials back
. need network in order to effectively deal with waste materials
. community bulletins have helped in this regard

Jill Stocker

. highly consultative process for drafting SD report
. used action research method where ideas are tested with people being interviewed as part of the process
. network/partnership approach is key; need to lead by example
. community learning is key aspect of sustainability; integrating environment and economy through series of small scale demonstration projects helps
. trade associations have a key role to play in getting industry to improve its performance
. sustainability needs to be seen as a limiting adjective

. community has a lot of concerns over the GTA (Greater Toronto Area) in terms of its pull and values - in conflict with local quality of life that peterborough residents have chosen
. concern over dictates from Toronto (Queen's Park)
. conventional solutions are not the answer, current policies are generally in the way, conventional planning limits the scope/solutions too much before starting
. more resources are required at the community level; information clearing house; need a multiplicity of processes going on; need both small and large scale solutions
. individuals need to become more involved and working towards solutions

Don Frise

. problem is one of human concentration/intensity of human activity
. development of infrastructure is a key lever of government
. would like to see Ottawa/Sarnia link (407) to assist communities like Peterborough who are off the 401
. building code is a key barrier - discourage use of recycled materials
. a lot of demonstration projects have been undertaken by local business people - recycling of wood pallets, upgrading lighting systems, conversion to natural gas systems from all electric, etc.
. CMA undertaken to develop information to allow industry to conduct self appraisals
. need to share success stories - people are looking for ideas
. share the load breakfasts have been initiated and a local waste exchange bulletin has been developed
. energy management programs are required - need funds for forums and assistance from local energy experts

Concerns identified:

. uncertainty over regulatory agenda
. too much paper work involved in meeting regulatory demands for small business people - 8-10 hours per week
. need more alternatives available
. wasting too much effort looking for perfection, need more "better" initiatives
. conservation won't do the full job, fears energy shortages
. business is an easy target
. NIMBY is far too prevalent
. taxes should be geared to do environmental projects, funds should be earmarked
. need to get the best bang for the dollar when spending public resources
. governments should provide incentives and information and work towards consensus through multistakeholder processes .
. need a level playing field - legislation/taxes/consistency in markets and a mix of carrots and sticks
. who takes on certification/authentication role for green products? Confusion delays action on part of industry

Recommendations:
. need to get on with it, keep pressure on to do better
. use best available alternative
. enough discussions already
. use critical path approach, efficient use of public resources
. need a reasonable phase in period
. need processes where people can buy into objectives that are set

Bill Prentice/Art Stacey
. need to educate the public
. have cut flow of waste by 12%
. difficulty with what constitutes recycling/recycled
. difficulty in getting packaging back from consumers of products
. need specific test standards; industry to self police, test products
. concern over Transportation of Dangerous Goods Legislation (colour of warning label)
. would like to see full disclosure on packaging of product formulation along with test data

Ivan Bateman
. industry needs to be more than generators and processors of waste material, they also need to be consumers of same
. partnership with industry is key (municipalities)
. large demand for recycling infrastructure before system is fully in place
. need to work towards solutions over time
. association of municipal waste recycling coordinators has been recently established to promote information exchange in waste management area - waste audit committee - how to, what to do next publications
. community based recycling programs are expensive; hazardous waste collection day cost city $140K
. should tax virgin materials in order to promote recycling
. building code is outdates, needs to be updated every 3 years
. regulation 309 only applies to large waste generator, not the household or small business person
. small business should be included in hazardous waste collection days
. need to look for interim solutions, should not impede process of improvement
. point of sale programs work best - drop off batteries where you buy them
. need to close the loop at the point of distribution
. small towns offer opportunity to try solutions on a small scale
. moving targets make it difficult for people trying to do the right thing

Appendix C

July 10 Workshop Consultation Document

Issues Discussion Document

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. Paying the Full Price
. Role of Technology

Monitoring and Review of Performance

. Measuring Our Progress

Introduction

This paper served as a point of departure for the July 10 multi-stakeholder workshop organized by the Manufacturing Task Force. It identifies the key issues considered by the Task Force, identifies both structural and operational barriers that need to be considered, and outlines a set of strategic actions that would assist in the attainment of the stated objectives.

The workshop was designed to seek consensus on the key issues, to add issues as necessary, and to work towards recommended options for addressing these issues areas.

Background

The Manufacturing Task Force was established by the Ontario Round Table to consult with key stakeholders and to prepare a report to the Round Table which describes in the opinion of the Task Force members the strategic issues and priority actions for implementing sustainable development in the manufacturing sector.

The Task Force is comprised of:

Ms. B. Heidenreich, Chair, Executive Director, Canadian Institute for Environmental Law and Policy
Mr. I. Granovsky, President, Atlantic Packaging
Ms. D. Hansman, Past President of Hansman Equipment (Retired)
Mr. G. Hare, Director, Ministry of Industry, Trade and Technology
Mr. R. Redhead, Director, Laidlaw Inc.
Ms. P. Sullivan, Regional Manager, Amalgamated Clothing and Textiles Workers Union
Mr. C. Issacs, Environmental Consultant (ex-officio)
Ms. M. Sutherland, Native Circle (ex-officio)

In addition to undertaking a multi-stakeholder forum, the Task Force met a total of fourteen times over the course of its mandate, met with local business and other organizational representatives in Peterborough, issued a questionnaire to some 150 manufacturing companies and organizations and met with major business associations across the province to solicit views and ideas concerning sustainable development and its application to the manufacturing sector in Ontario.

Background To Discussion Document

The following sections of the discussion paper outline the key objectives of sustainable development as defined by the Manufacturing Task Force and the four principal mechanisms for achieving these objectives. Some of the structural and operational barriers which exist are outlined as are some of the more effective actions to bridging the gap between our present economic system and a more desirable economic system.

Key Objectives and Related Issues, Barriers and Strategic Actions

Key Objective - 1. Protecting the Biosphere

Issue

There is a growing consensus about the need to ensure that human activities, either globally, regionally or locally, do not stress natural ecosystems beyond critical thresholds. Human health and safety may be potentially compromised by current discharges to the environment. Ecosystem concerns include: the build-up of persistent toxic contaminants in the environment; the loading of acid forming substances to the atmosphere; the accumulation of stratospheric ozone scavenging chemicals in the atmosphere; the accumulation of greenhouse gases in the atmosphere; and declines in genetic diversity, species and habitats resulting from the exploitation of natural resources. The scale of economic activity both at home and around the globe (level of energy and material flows) need to be assessed in relation to ability of our environment to regenerate itself.

Barriers

. At present we have poor baseline information regarding the health of critical ecosystems and a similarly poor understanding of the linkages between human activities and their impact on these systems. Information relating to the long term and cumulative effects of human activities on the environment is also required. Collecting, assembling and disseminating comprehensive information is expensive and time consuming undertaking.

. Our key measure of well being, Gross National Product (GNP), is the aggregate of market based exchange between producers and consumers. GNP lacks consideration of environmental services rendered by natural systems and does not adequately measure the stocks or flows of those resources which form the basis of our economy.

. At present there is no means of setting priority for the many environmental issues now cited in the literature. Single interest groups continue to press government for action. Neither industry, governments nor society has the financial, technical or human resources to address all issues of these issues at the same time. Where problems exists, experts often disagree on their extent and on options to resolve them.

. There has been an historic tendency to deal with environmental problems as they occur rather than attempting to anticipate and prevent their occurrence in the first place. As a consequence, many efforts are directed to the symptoms of environmental decline rather than at the underlying causes.

. Environmental protection standards are primarily based on single media exposures (air, land or water). The ability of contaminants to migrate from one medium to another is not generally reflected in the standards setting process although human and environmental impacts result from discharges to all three media.

. Prices of goods and services do not generally reflect the environmental costs associated with their manufacture, consumption and ultimate disposal. As a result, consumers are not generally informed about the environmental consequences of their behaviours and consumption patterns. Prices in a market economy play a critical information role and can serve to modify behaviours or indicate business development opportunities. Expectations for environmental integrity often conflict with individual actions.

. Long production runs and standardized goods have made many products relatively inexpensive to produce and price has become a key aspect of competition between producers. With price playing such an important role in consumer's decisions, product qualities such as durability and energy efficiency which can reduce the products' impact on the environment have not received the attention they deserve. In addition, consumers do not generally recognize life cycle cost arguments for purchasing quality goods and services.

. Management information and reward systems do not generally evaluate production, design or marketing personnel on their contribution to environmental protection.

. Environmental protection is everyone's responsibility and yet people are not generally held accountable for the environmental consequences of their decisions (for example: consumers are not responsible for the carbon they emit to the atmosphere nor for the wastes they release to the sewer from products they use such as cleansers; manufacturers of batteries are not responsible for the release of heavy metals to the environment when their products are ultimately disposed).

Strategic Actions

. Consider implementing on a trial basis the setting of standards based on a multimedia (air, land and water) approaches.

. Institute greater use of multidisciplinary studies on issues relating to environment/economy interaction - global warming could serve as a useful model.

. Establish through consultation with industry and environmental groups timetables for undertaking product and process life cycle analyses to assess environmental impacts and to identify opportunities to reduce waste, improve efficiency and reduce environmental impact.

. Encourage industry to assume cradle to grave responsibility for its products and processes.

. Encourage the development of employee performance and reward systems to take into account environmental performance criteria at all levels within the public and private sectors.

. Ensure, by an agreed upon date, the provision of product environmental impact information as part of a consumer education campaign.

. Establish a multidisciplinary (natural science, engineering, social) and multipartite (government, industry, labour, environmentalists) body to collect, process and disseminate information relating to the state of our natural resources and those ecosystem functions essential to our collective security.

. Establish a multidisciplinary and multipartite body to establish priorities for environmental protection based on credible science and research.

Key Objective - 2. <u>Enhancing Competitiveness</u>

Issue

We require a healthy business sector, good paying jobs and continuing high income levels in order to restore many degraded provincial ecosystems, maintain our social support systems at an acceptable level and to facilitate the structural adjustments necessary in moving to a more sustainable economy.

Maintaining our relative material affluence as a high factor cost producer in a global economy is critically dependent on our ability to supply goods and services to international markets that are either competitively priced or that command price premiums over those supplied by lower factor cost producers. Historically, we have competed largely by providing industry with access to favourably priced natural resources including energy, minerals, lumber and water.

Most of our high wage production jobs are provided by our largest and most potentially polluting industries including automobile manufacturing, chemicals, mining, forest products and energy.

Maintaining a level playing field in terms of environmental standards among our trading partners is required in order to not disadvantage industries residing in Ontario due to environmental considerations.

Barriers

. Over the past several decades, through demand driven processes, there has been an increasing level of responsibility for individual well being placed on Governments at all three levels - for income protection, skills retraining, energy security, health care, consumer protection, environmental quality, and job development among many others.

. Basic educational (literacy/numeracy) standards have fallen over the past several decades. Lower levels of literacy and numeracy place additional training and skill upgrading burdens on both public and private sectors which increase cost structures and reduce competitiveness.

. Fiscal, social, labour, tax and environmental policies may not recognize the need for flexibility within businesses to make required changes to maintain their competitive position.

. As a province, Ontario is forecast to experience labour shortages in critical areas including skilled trades, pure and natural sciences, and engineering over the foreseeable future.

. Uncertainty over political and regulatory agendas reduces the willingness of industry to invest and take risks where the investment horizon is not known or is likely to change. Dysfunctional competition between levels of government and among departments/ministries within the same level of government also reduces the willingness of business to invest, raises the cost of compliance and increases the administrative overhead for society.

. The rapid rate of change regarding peoples expectations about the environment has added to the uncertainty factor within business. Standards based largely on political considerations have made predicting future requirements difficult.

. Too many regulations currently in force specify how certain objectives are to be achieved rather than what objectives are to be achieved.

. The relatively low rates of taxation and prices in the US coupled with an inflated Canadian currency value relative to that of the mid 1980s, reduce the incentives for Canadians to invest and consume at home.

. The historical lack of cooperation between unions and management inhibits our ability to compete - rigid job specifications and poor levels of employee training are two examples where efforts to improve performance have not been taken.

Strategic Actions

. Require the clear articulation of long term governmental policy regarding environmental protection and international competitiveness.

. Establish, through multi-stakeholder consultation, an appropriate phase-in period for regulatory requirements or standards relating to environmental performance for existing facilities; BATEA should be required for all new facilities.

. Couple economic incentives with regulations to protect the environment to encourage compliance by industry - the design and implementation of economic incentives should be based on revenue neutrality criterion. Request the Fair Tax Commission to investigate ways of adjusting the tax system to encourage sustainable rates of resource use, economic efficiency, and anticipatory environmental protection efforts.

. Consider the adoption of user pay schemes for public services (roads, water, sewers). As an initial step, ensure that all service costs are clearly visible to the consumer.

. Set clear bench marks for government policy and program effectiveness and establish standing committees, with multi-stakeholder representation, to review their performance.

. Encourage greater use of "challenge by government to industry" in advance of bringing in further regulations.

. Conduct a review of the cumulative impact of all regulations on industry from competitiveness. and sustainable development perspectives.

. Conduct trials to evaluate industry's ability to "self-police" these should be coupled with multipartite evaluation committees and audits by government; industry should voluntarily withdraw environmentally damaging or unsound products.

. Encourage technology and skills transfer from large industry to small as a means of

improving the environmental performance and competitiveness of all industry.

. Institute a clearing house for non-proprietary clean process or product technology, successful waste management practices and process optimizing techniques as a means of raising average environmental performance levels within industry.

Mechanisms for Objective Attainment

1. Making Better Decisions

Issue

Environmental considerations need to be brought into the centre of decision making processes at all levels within our society. The relative merits of arguments and perspectives on all sides of these issues need to be considered in determining the common ground between competing interests. Disagreements often lie not so much in the need for action, but rather in how quickly and what specific actions should be undertaken. The focus in deciding on action should shift from who bears the fault to how to effectively resolve the problem. Greater acceptance of decisions on matters of public policy are achieved when all parties affected by decisions have an opportunity to contribute to the decision making process.

Decision making processes within both public and private sectors need to reflect sustainable development context to a much higher degree.

Barriers

. Decisions regarding environment and economy are largely made by separate decision making bodies in both public and private sector institutions. Information systems which measure environmental and economic data are also separate and are often incompatible making direct linkages between the two systems difficult at best. Further programs to protect the environment and develop our economy are often not set with consideration for the impacts that each would have on the other. Mandates are too narrowly defined to encourage all stakeholders in working towards common ground.

. There has been a reluctance by politicians to make decisions on important matters of public policy through broad based consultation mechanisms. The appropriate balance between leadership and consultation is difficult to find.

. Too often punitive approaches to resolving issues are adopted which lead to polarization of positions and interests and effectively reduces the common ground that stakeholders might otherwise find.

. Often, industry will negotiate with those who will be affected by actions to be taken by

industry and will come to an agreement regarding mitigative efforts. When the results of such processes are brought before government for approval, industry is often informed that the solutions are not valid because the process followed was not deemed acceptable. Processes that are acceptable are not outlined, well known or encouraged to be followed. Environment Assessment Act Pre-submission Consultation and the Certificate of Approval Processes are cited examples.

. Decision making processes within both industry and governments are generally quite closed. The affected public is generally excluded from such processes and is often not informed of the decisions once they have been taken.

. Mandates of Ministries within given levels of government are often competing to the point that programs and policies encourage behaviours at both ends of the spectrum. Alignment of government policy and programs would greatly assist industry and the public in complying with the intentions of government. There is also ineffective and wasteful competition between different levels of government where jurisdictional boundaries are unclear

. The regulatory framework in place has become far too cumbersome and convoluted. Consultants and lawyers should not necessarily be required to steer industry and others through the various decision making or approval processes.

. Compliance with the intention of the law is often not sufficient. Regulations and laws are drafted in such a manner that the intention and the letter of the law are not necessarily congruent.

Strategic Actions

. Ensure greater use of multi-stakeholder forums to identify problems, set priorities and make decisions regarding environmental and economic policy at the federal, provincial and municipal levels.

. Undertake a review of government legislation, programs and policies to assess their impact on sustainable development with the aim to streamline government, clarify jurisdictional responsibilities and move towards a one window approach for the delivery of government services.

. Require greater public disclosure by governments and Ministers regarding their agendas to reduce uncertainty and improve understanding of government direction.

.Review public decision making processes such as the Environmental Assessment Act with the view to have two sets of decision streams; one for routine programs and policies within the public and private sectors where expectation and time constraints on making decisions are clearly known; and another where more fundamental issues can be considered such as the cumulative

impact of human activities or the use of the global commons can be assessed.

.Investigate the possibility of legislating the use of decision making processes on matters of public policy and in cases where private decisions have significant consequences on public welfare that have the following characteristics:

. clear process outline
. clear articulation of those with standing
. clear expectations for those with standing
. clear identification of decision criteria
. clear articulation of who the decision makers is
. clear indication of the time frame for making a decision

2. Better/Quality Information

Issue

Information regarding the health of our ecological support systems (carrying capacity and critical thresholds) and the long term cumulative impact of human activities on human health and our environment are critical to evaluating the sustainability of our society. In order to assess the effectiveness of actions to reduce environmental stresses and improve our sustainability, we require information that links economic activities with their impact on our environment. This would encourage greater awareness of environmental impacts and foster more responsible behaviour by individuals and institutions with respect to ecological integrity.

Environmental and economic information need to be available and brought together within decision making processes as a means of assessing the relative sustainability of alternative actions or activities.

In order to get the best information at a reasonable cost to society, different segments of society need to share information and trust that the information will not be used against them.

Barriers

. Information is expensive to collect, process and is often subject to different interpretations.

. There exists considerable down side to sharing information among and within different. stakeholder groups within our society, especially regarding environmental performance data - uncertainty exists over who will use the information and for what purposes.

. Information gathering networks in the environmental and human health areas are not nearly as well established or funded as those within the economic field.

. Most of the information and measures currently used to assess the performance of companies,

individuals and societies are largely economic based.

. Environmental status reports are prepared with much lower frequency and are not well linked to the activities that cause the environmental stresses.

. Environmental effects are not generally measurable in terms of cause and effect and the impacts of certain emissions may not be visible for years (or decades) due to system inertia or the ability of the environment to buffer emissions to a certain point. Human health response data show similar time lags. With the chemistry involved, it is difficult to show clear cause and effect relationships between pollution and impact.

. There are some 80,000 manufactured chemicals on the market and human and ecosystem response data are available for only a small percentage of these. Public understanding of science and risk assessments is far below what it needs to be.

. Cost benefit assessments of new chemicals and technologies generally do not assess **who's costs and who's benefits** to the extent that they should; they tend to focus more on **what costs and what benefits**.

. Research efforts have only recently begun to address broader issues of environmental contamination and from an interdisciplinary approach.

Strategic Actions

. Review the work currently under way on satellite accounts and natural resource accounting systems to bring forward a comprehensive resource accounting and ecosystem integrity measurement systems in place within a specified time frame.

. Encourage greater cooperation in the gathering and dissemination of data on environment and economy among and within government, industry and environment/human health groups.

. Evaluate the feasibility of establishing a repository and clearing house of information relating to sustainable development.

. Establish a multipartite committee to review data availability, data needs and to oversee an unbiased collection interpretation and broad dissemination of data.

. Require major private and public sector undertakings to be evaluated for their environmental impact through well defined process where requirements are known, time limits are in place, cost implications are known and decisions will result with a fair degree of certainty.

. Conduct a review of current and proposed government policies, programs and expenditures to identify their impact on environmental systems.

3. Role of Technology

Issue

Technology is a key lever for society in moving towards more sustainable forms of development, in terms of (a) reducing the environmental impact of human activities, (b) developing new products, processes, and services that can be brought to domestic and international markets, (c) in making information regarding the state of our environment more readily available, and (4) in restoring damaged areas.

Certain technologies also pose significant risks to society. In addition, many current technologies have encourage and resulted from our largely once through economic system where natural resources are converted into goods and services that have limited in service lives.

Canada, as an recognized international centre of environmental excellence, could assist in efforts to protect our biosphere and enhance our competitive position internationally.

Barriers

. Environmental protection is still largely viewed with an "end of the pipe" mentality rather than as a function of public policy choices or environmentally responsible process and product design and best management practice operations.

. There is often poor communication among decision maker, process specialist, technology developer and employees in technology funding, development and implementation.

. A lack of clear public policy priorities reduces the effectiveness of research and development efforts currently expended in the area of environmental protection.

. Research efforts have only recently begun to involve multiple disciplines across social, economic and environmental fields.

. The education system still lags behind society; and science and technology are not viewed as key priorities.

. The small commercial market of Ontario poses a barrier to Ontario based companies in the business of developing and commercializing environmentally sound process technologies.

Strategic Actions

. Expand the public knowledge of and mandates for the provincial Centres of Excellence to include product and process design, energy efficiency, least cost energy services, technology transfer and interdisciplinary research.

. Institute programs to encourage multipartite problem identification and resolution efforts.

. Expand funding for and extend scope of programs such as "On-Site" which encourage the extension of science and engineering skills into the small business community and to assist small business with the uptake of technologies they would otherwise not be able to afford.

. Encourage greater cooperation and information exchange between large and small business sectors regarding environmental problem resolution and operations management.

. Institute programs to heighten the awareness and capacities for technology transfer within Ontario and from Ontario based organizations to countries oversees to assist these in their efforts to achieve sustainability.

. Expand the current system of economic incentives to Canadian business to increase the rate of technology development and implementation and to increase the number of businesses which pursue technology and technical services marketing in the environmental protection area.

. Ensure that environmental and social impact assessments are undertaken as part of research, technology development and implementation where public monies are used to assist in such endeavours.

4. Ensuring Prices Reflect Their Full Costs

Issue

For our economy to be efficient in the provision of goods and services, competitive internationally, and contribute to society in a sustainable manner over the longer term, the prices we pay for economic activities should reflect their full cost. Where resources such as clean air and water are not priced, they tend to be overused in the production and consumption process. Underpricing resources reduces the focus on efficiency and lowers the degree of competitiveness that often result from efficient operations.

This issue is not about raising additional revenues for governments. It is a means to achieve an objective of a cleaner and healthier environment that everyone agrees with. The issue is about providing the incentives necessary to encourage producers and consumers to behave in a more sustainable manner. Through a series of pricing and taxation adjustments, resource uses can begin to reflect their full cost, thereby providing users with an incentive to economize, and charges or taxes in other areas can be adjusted downwards to ensure that businesses and consumers in Ontario are not unduly burdened for trying to do the right thing with respect to our environment.

Working in concert with our other major trading partners would ensure that one jurisdiction is not unfairly disadvantaged for trying to effect positive change with respect to our environment.

Barriers

. Governments have traditionally undertaken to provide subsidies and incentives for the commercial development of our natural resources and through the supply of secure competitively prices energy sources.

. Many of our largest employers are resource based companies that compete in international markets. Prices paid for goods are denominated in US currency and often fluctuate considerably due to international market forces.

. We have an open economy and rely heavily on trade to maintain our current consumption patterns.

. There is a large fear that unilaterally moving towards full cost pricing policy will place Ontario based industry at a competitive disadvantage in relation to our trading partners. For example, raising the price of energy - which has traditionally been one of our industry's main sources of competitive advantage - too quickly may place energy intensive manufacturers at a distinct disadvantage.

. Consumers have shown a high propensity for avoiding taxes - cross border shopping is the latest example. Moving from a taxation scheme largely based on income to one based on consumption may only further fuel the cross border shopping trend unless public education, adequate controls or information systems are put in place. Public recognition that taxes pay for infrastructure including roads and hospitals along with other highly demand driven public services is not very high.

Strategic Actions

. Institute the use of economic instruments in several pilot demonstrations to raise funds for several dedicated environmental protection projects.

. Examine converting to user pay schemes for several public services such as water and sewer service provision or for the review of plant and equipment specifications as part of an approvals procedure for discharges to water or air.

. Institute a "cost of service" notice system for users of public services such as water services of waste services, etc - publishing public service delivery costs in annual budgets and reports is also worth extending.

. Couple economic instruments with environmental protection regulatory requirements.

. Increase the Capital Cost Allowance rates for the process modifications aimed at reducing the environmental impact of plant operations.

. Institute a natural resource accounting system that measures the stock and flow of natural resources and environmental services and their contribution to economic development in the province.

5. Measuring Our Progress

Issue

New measures of success are required in order to assess our progress towards sustainability. Measures including efficiency, ecological integrity, community, social equity and fairness, and international equity have all received coverage in the literature as likely components of a sustainable society. At present, most of our measures of success are economically based in terms of per capita income and consumption, net asset value per share, returns on investment, profit ratios and net worth, etc.

We need to articulate our goals and objectives for achieving sustainability, the means by which these goals and objectives are to be attained, the time frames for attainment, and to ensure an ongoing review capacity that measures progress towards these goals and objectives.

Barriers

. Many decisions regarding public expenditures are now taken on the basis of narrowly defined economic indicators. Economic feedback is measured in terms of weekly or monthly statistics. Measuring ecological trends is rarely appropriate in terms of such short intervals (except for biological impacts of toxic discharges - e.g. 48 hour toxicity tests for effluent discharges).

. Economic measures are largely divorced from the environmental or social circumstances which make them relevant for sustainability. We do not readily see the linkages between environment, health and economy.

. Data is expensive to collect, interpret and publish. Agreement on data validity and interpretation are further problems.

. Society is largely geared to making decisions on very short time frames and often with very sketchy data.

. Sustainability indicators are very difficult to get agreement on from a cross-section of society. Science can not identify if a system is sustainable, only if it appears to be unsustainable.

Strategic Actions

. Establish multipartite groups to identify acceptable indicators of progress/sustainability (academics, government officials, business leaders and advocacy groups).

. Raise awareness and profile of current efforts to develop satellite accounts for our System of National Accounts.

. Encourage the publication of annual reports by business, ministries of government and environmental groups on the environmental impact of activities undertaken over the preceding fiscal period.

. Encourage public companies to report annually on their compliance with environmental statutes, regulations, standards and guidelines. Information relating to environmental liabilities should be made broadly available to investors and potential investors as well as those who live in the vicinity of manufacturing operations.

Appendix D

Manufacturing and Sustainable Development Questionnaire

1. What has your business done to eliminate a) air and water pollution and (b) land degradation?

2. What process changes have you made to include a) renewable resources and b) recycled materials in the manufacture of your products? Why?

3. What measures has your company taken to reduce energy use?

4. What are you doing with your suppliers to ensure that the resources you need will continue to be available?

5. What measures is your company taking to reduce the amount of a) solid and b) hazardous waste it creates? Why?

6. How are you handling solid waste?

7. To what extent are employees (shop floor, office, technical and management) involved in the development of environmental protection programs?

8. In trying to resolve the integration of environmental considerations with your economic decision-making, a) what obstacles have you encountered? b) what obstacles do you expect to encounter? Please be as specific as you can in identifying regulatory and financial barriers or constraints.

9. What do you primarily manufacture? ☐ chemicals ☐ steel ☐ autos
☐ consumer goods ☐ glass ☐ plastics ☐ electronics
☐ other (please identify) _____

10. In assisting you to reach sustainability, what is the role for the following (again please be as specific as possible):

Government _____

_____

_____

Non Governmental Organizations _____

_____

_____

Industry/Business _____

_____

_____

Labour _____

_____

_____

Consumers _____

_____

_____

Educators _____

_____

_____

Others (please list): _____

_____

☐ I would like to receive a copy of the Manufacturing Task Force Report to the Round Table once it becomes available.

Mr./Ms./Miss/Mrs. _____
First Name Last Name

Title: _____

Organization: _____

Address: _____
No. Street Unit/Suite

_____
City/Town Province Postal Code

This survey is a public document.

Please return this questionnaire to:

The Sectoral Task Force on Manufacturing
c/o The Ontario Round Table on Environment and Economy
790 Bay Street, Suite 1003
Toronto, Ontario M7A 1Y7
or fax it to (416) 327-2197

Appendix E

Example of Corporate Information Source - ETHICSCAN CANADA

HOW WE CAN HELP

EthicScan can provide you with data on a wide range of topics. A few categories are listed below as a guide, so you know the type of information you can expect to find in our files and how it might be of help to you. Please refer to EthicScan's Factors List for a complete guide to the types of information we can provide.

Environment

The environment is topping public opinion polls in Canada, and is an area which poses a great challenge to companies across the country. Clearly, enterprises ignoring environmental issues in their operations do so at their own peril. Tougher environmental legislation and fines seem inevitable, increasing the possibility that the 'dinosaurs' will require huge capital expenditures in order to meet new laws, or will face heavy fines for environmental transgressions. Both these scenarios will negatively affect the bottom line, and these types of companies will prove to be unwise investments. Likewise, companies acting as a business opportunity, are more likely to offer you an attractive rate of return in the future.

EthicScan can provide you with the type of information you need to chose the winners and the losers. We can provide a variety of data on a company's environmental **policies** and **philosophy**, facts on its environmental **code of conduct**, and if the enterprise routinely undertakes environmental **audits** or assessments of its operations. We can tell you what the company spent on environmental improvements in the past and what its planned **capital expenditures** are in this area for the next three years. Finally, we can highlight the environmental **management team** the company has in place (Management, Officer and Board levels), and if the Board of Directors routinely receives reports on the environmental operation of the company. This information will help you decide if the company takes its environmental responsibilities seriously, thereby better positioning itself for the future.

Appendix F

Example of Energy Efficiency Potential - MINISTRY OF REVENUE BUILDING, OSHAWA

PROJECT: Ministry of Revenue, Province of Ontario, Oshawa, Ontario, Canada
Gross Floor Area: 44,850 square metres

CLIENT: Ministry of Government Services, Queen's Park, Toronto, Ontario, Canada

CONSTRUCTION VALUE: Canadian $22 Million (1980)

ENERGY FEATURES: Heat Reclaim, Thermal Storage Tanks.
Energy Budget: 129 Kw hrs. per sq. meter per yr.
Computer Model indicates energy use of 93.5 Kw hrs. per sq. metre per yr.
Average Ceiling Height: 2,743 metres
Task Ambient Illumination: 16.15 Watts per sq. metre
Maintained Illuminants: 600 Lux.

CONSULTANTS: Michael Ch. Ogus, Architect
Smith and Andersen Consulting Engineering
Mulvey and Banani International Limited

This project is one of the most energy efficient office buildings in the world, and yet, its construction cost is equivalent to competitive speculative office building prices. The energy consumption budget represents approximately 15% of the average office building's consumption. This achievement was made possible by the close cooperation of ECM International's consultants. Major systems required in the building were identified and an extensive alternatives priority study was undertaken.

The criteria included considerations for performance, appearance, maintenance, durability, compatibility with other systems, initial and life cycle costs.

To assist in evaluating alternatives with respect to their contribution to energy efficiency, the major sources of heat loss and heat gain were identified. Heat loss results from transmission through the exterior building envelope, from ventilation and infiltration of cold air and from exhaust and exfiltration.

Heat loss through transmission has been controlled by strict insulation and percentage window area guidelines. Ventilation volumes are governed by the Ontario Building Code, as are exhaust requirements for washrooms and kitchens. Warm exhausted air provides the opportunity to utilize heat reclaim methods.

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This project is one of the most energy efficient office buildings in the world, and yet, its construction cost is equivalent to competitive speculative office building prices. The energy consumption budget represents approximately 15% of the average office building's consumption. This achievement was made possible by the close cooperation of ECM International's consultants. Major systems required in the building were identified and an extensive alternatives priority study was undertaken.

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Heat loss through transmission has been controlled by strict insulation and percentage window area guidelines. Ventilation volumes are governed by the Ontario Building Code, as are exhaust requirements for washrooms and kitchens. Warm exhausted air provides the opportunity to utilize heat reclaim methods.

To minimize heat loss through infiltration and exfiltration requires the exterior skin to perform as an air barrier. Careful attention has been given to every conceivable joint condition within the exterior skin.

The exfiltration problem was further complicated by a requirement for smoke control in the building as a result of the interconnected floor areas created by the central atrium. To control smoke migration from one floor to another, it was required to maintain a positive air pressure throughout the building. This meant that there would continually be a positive air pressure acting on the entire air barrier. As a result, a sheet metal vapour barrier was chosen with joint provisions at panel junctions, floor slabs and windows, which allowed for movement and still provided a continuous seal.

Heat gain in the winter comes primarily from the body heat of the 1760 employees and the lighting. Additional heat is created by mechanical equipment including fans and pumps, computers, elevators, kitchen equipment, waste incineration and passive solar radiation through windows.

Heat gain from body heat and lights is more than sufficient to offset heat losses and maintain interior design temperature during occupied hours. To utilize excess heat from occupied hours requires the introduction of heat storage facilities. Excess heat is collected during occupied hours, stored and recycled during unoccupied hours. With sufficient storage capacity the building was designed to eliminate the need for additional heating.

Summer heat gain is of greater concern than winter heat gain. There is no offsetting heat loss with which to balance the energy equation. Additional energy must be expended to cool building.

In addition to heat gain from body heat and lighting, the sources of winter heat loss reverse and become sources of summer heat gain. Measures undertaken to prevent heat loss though are even more effective on these sources of heat gain. The difference between indoor design temperatures and outdoor temperatures are significantly smaller in the summer months, contributing to more efficient control.

Solar radiation through windows represents the major source of additional heat gain in the summer. Again the percentage of window area guidelines contributes to limiting the heat gain. In addition, triple-glazed, heat absorptive windows were provided with shading devices to minimize the heat gain.

The heat storage facilities provided the opportunity to chill water during non-heat hours. Water is chilled during the night, stored in the water tanks and recycled during the day. The night-time chilling is both more efficient and less expensive as preferred electricity rates are available.

A computerized environmental control system is provided for this building. The software programme accommodates changes in exterior climate and interior use and evenly distributes energy demands which result in the elimination of peeks which command a premium price from local energy rates.

The Ministry of Revenue building demonstrates how the experienced ECM International consultants design team approaches a design problem as a whole. The results of this project indicate quite conclusively that a total concept approach is essential to achieving energy efficiency in building designs of any type, anywhere in the world.

Appendix G

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